

## IUBMB Enzyme Nomenclature

## EC 2.1.1.135

**Recommended name:** [methionine synthase]-cobalamin methyltransferase (cob(II)alamin reducing)

**Reaction:** [methionine synthase]-cob(II)alamin + NADPH<sub>2</sub> + *S*-adenosyl methionine = [methionine synthase]-methylcob(I)alamin + *S*-adenosylhomocysteine + NADP.

**Other name(s):** methionine synthase cob(II)alamin reductase (methylating); methionine synthase reductase

**Systematic name:** *S*-adenosylmethionine:[methionine synthase]-cobalamin methyltransferase (Co<sup>II</sup> reducing)

**Comments:** a flavoprotein. Electrons are probably transferred from NADPH<sub>2</sub> to FAD to FMN.

**Links to other databases:** [BRENDA](#), [EXPASY](#), [KEGG](#), [WIT](#), CAS registry number: 207004-87-3

**References:**

1. Leclerc, D., Wilson, A., Dumas, R., Gafuik, C., Song, D., Watkins, D., Heng, H.H.Q., Rommens, J.M., Scherer, S.W., Rosenblatt, D.S., Gravel, R.A. Cloning and mapping of a cDNA for methionine synthase reductase, a flavoprotein defective in patients with homocystinuria. *Proc. Natl. Acad. Sci. USA*, 95 (1998) 3059-3064. [Medline UI: [98169496](#)]

[EC 2.1.1.135 created 1999]

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Return to [EC 2.1.1 home page](#)

Return to [EC 2.1 home page](#)

Return to [EC 2 home page](#)

Return to [Enzymes home page](#)

Return to [IUBMB Biochemical Nomenclature home page](#)